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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/006,269	12/04/2001	Shui-Hung Chen	67,200-537	2058

7590 12/03/2002

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EXAMINER
FARAHANI, DANA

ART UNIT	PAPER NUMBER
2814	

DATE MAILED: 12/03/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/006,269	CHEN ET AL.	
	Examiner	Art Unit	
	Dana Farahani	2814	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *9/23/12* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-39* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-39* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 1-18, 21-23, and 26-39 are rejected under 35 U.S.C. 102(e) as being anticipated by Yu (U.S. 6,353,237).

Regarding claims 1-5, Yu discloses in figure 6 an SCR voltage transient protection device comprising a pair of complementary bipolar transistors, 40 and 41, each having a respective base, emitter and collector, the SCR fabricated such that a reach-through effect across the base of at least one of the complementary bipolar transistors causes triggering of the device.

Regarding claims 7-18, 21-23, and 26-39, Yu discloses in figure 4, a silicon controlled rectifier device comprising: a first lightly doped region 31 having a first conductivity type formed in a second lightly doped region 30 having a second conductivity type; a first heavily doped region 34 having the first conductivity type formed in the second lightly doped region; a second heavily doped region 33 having the second conductivity type formed in the first lightly doped region; the second heavily doped region, the first lightly doped region and the second lightly doped region forming an emitter, a base and a collector, respectively, of a first transistor; the first heavily doped region, the second lightly doped region and the first lightly doped region forming an emitter, a base and a collector, respectively, of a second transistor; an avalanche junction formed at the interface of the first and second lightly doped regions having an avalanche junction breakdown voltage; and wherein one of the first and second transistors is characterized by attaining a reach-through voltage prior to the avalanche junction attaining the avalanche junction breakdown voltage.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 19, 20, 24, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yu.

Regarding claims 19, 20, 24, and 25, Yu discloses the claimed invention except expressly disclosing the values in the claims. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include these values since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art.

Product-by-Process Limitations

5. While not objectionable, the Office reminds Applicants that "product by process" limitations in claims drawn to structure are directed to the product, per se, no matter how actually made. *In re Hirao,* 190 USPQ 15 at 17 (footnote 3) which make it clear that it is the patentability of the final product per se which must be determined in a "product by process" claim, and not the patentability of the process. Thus, no patentable weight will be given to those process steps which do not add structural limitations to he final product.

For example in claim 6, the "CMOS compatible process" does not offer any structural limitation to the final product, thus given no patentable weight.

Response to Arguments

6. Applicants' arguments filed on 9/23/12 have been fully considered but they are not persuasive.

Applicants mainly argue that in contrast to the limitation in the claimed invention, namely "...a reach through effect across the base of at least one of the complementary bipolar transistors causes triggering of the device ", Yu's SCR triggering is caused by a diode. Applicants admit in their argument that in the claimed invention the SCR is triggered in accordance with the break down across the junction of [base] (see page 3 of the remarks by the applicants, the last 5 lines). Applicants also argue that the functional aspects of reach-through effect or reach-through voltage of the claimed invention are "completely and unequivocally" absent from Yu.

The Office notes that reach-through effect is defined by the applicant, in page 10 of the specification, the first paragraph, as an SCR triggering caused by or attributed to collector voltage reaching through the base to the emitter in at least one of the pair of bipolar transistors making up the SCR device. Contrary to applicants' allegation, Yu discloses in column 1, lines 46-67, that triggering of the conventional SCR shown in figure 1 is caused by PN junction break down voltage between collector 11 and base 11, which is the reach-through effect, according to applicants' definition of the phrase .

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dana Farahani whose telephone number is (703)305-1914. The examiner can normally be reached on M-F 9:00AM - 6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy can be reached on (703)308-4918. The fax phone numbers for the organization where this application or proceeding is assigned are (703)872-9318 for regular communications and (703)872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0956.

Dana Farahani
November 27, 2002

LONG PHAM
PRIMARY EXAMINER